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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,501	02/04/2004	Kenkichi Hayashi	0649-0941P	1757

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
PETERSON, CHRISTOPHER K	
ART UNIT	**PAPER NUMBER**
2609	

NOTIFICATION DATE	DELIVERY MODE
05/18/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/770,501	HAYASHI, KENKICHI	
	Examiner	Art Unit	
	Christopher K. Peterson	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 June 2004 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 3/26/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The references listed on the Information Disclosure Statement (IDS) filed on 26 March 2004 is being considered by the examiner; see attached PTO-1449.

Drawings

3. The drawings were received on 8 June 2004. These drawings are acceptable.

Specification

4. The disclosure is objected to because of the following informalities:

On paragraphs 42, 44, and 69, the citation "low-sensitivity digital signal Hb" should be changed to "low-sensitivity digital signal Lb" because Figure 4 shows "low-sensitivity digital signal" as "Lb".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kutner (US Patent 4786968) in view of Masaya (Japanese Patent 2001-008104).

As to claim 3, Kutner teaches a signal processor circuit comprising;

- a table storage area (lookup table 20), which stores an LUT (Col. 2, lines 43 – 45);
- a table overwriter (CPU 10), which overwrites an LUT written into the table storage area (20) with another LUT (Col. 2, lines 57 – 64);
- a arithmetic operator (CPU 10), which performs arithmetic operation on a digital signal (digital video DIG. VID.) on the LUT (20) written into the table storage area each time an LUT (20) is written into the table storage area (Col. 2, lines 57 – 64).

Kutner does not teach a first and second digital signal and synthesizes the first digital signal and the second digital signal.

Masaya teaches a first and second digital signal (low and high sensitive video signal 14 and 12)(Para 0013) and synthesizes (52) the first digital signal and the second digital signal (Para 0022).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the first and second digital signal and synthesizes the first digital signal and the second digital signal as taught by Masaya to the lookup table system of Kutner, because a large dynamic range can be acquired by simple circuitry and a higher quality picture can be obtained (Para 0039).

As to claim 1, this claim differs from claim 3 only in that the claim 3 is an apparatus claim whereas claim 1 is a method. Thus method claim 1 is analyzed as previously discussed with respect to claim 3 above.

As to claim 5, note the discussion above. Masaya (Fig. 2) teaches an imaging apparatus comprising:

- an imaging element (10), which includes a plurality of first photoreceptor elements (30H) and second photoreceptor elements (30L) respectively having a first photoreceptive area and a second photoreceptive area having different sensitivities (Para 0014);
- an A/D converter circuit (16 and 18 of Fig. 1), which performs A/D conversion on a first analog signal (12) including a plurality of output signals output from the first photoreceptor devices (30H) and a second analog signal (14) including a plurality of output signals output from the second photoreceptor devices (30L) to generate a first digital signal (20) and a second digital signal (22)(Para 0018);

As to claim 6, note the discussion above. Kutner teaches a controller (CPU 10), which generates the LUT based on a digital signal (digital variable) or the second digital signal and a memory (lookup table memory circuit (RAM)), which stores the LUT

generated by the controller (10), wherein the table-overwriter (10) writes the LUT stored in the memory into the table storage area (lookup table 20)(Col. 2, lines 46 – 64).

7. Claims 2, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kutner (US Patent 4786968) in view of Masaya (Japanese Patent 2001-008104) as applied to claim 1, 3, 5, and 6 above, and further in view of Utagawa (US Patent 6529640).

As to claim 4, note the discussion above. Masaya synthesizes the first digital signal and the second digital signal together (Para 0022). Masaya does not teach the limitation "weighting LUT". Utagawa teaches synthesizing (B6) the first digital signal and the second digital signal by using a weighting LUT for signal synthesis written into the table storage area (Col. 23, lines 48 – 54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the weighting LUT as taught by Utagawa to the synthesizer of Kutner in view of Masaya, because an image with good resolution and less false color can be obtained (Col. 10, lines 23 - 34).

As to claim 2, this claim differs from claim 4 only in that the claim 2 is an apparatus claim whereas claim 2 is a method. Thus method claim 2 is analyzed as previously discussed with respect to claim 4 above.

As to claim 7, Kutner teaches the LUTs are an LUT for gray-scale correction of the first digital signal, an LUT for gray-scale correction of the second digital signal (Col. 2, lines 46 – 51 of Kutner) and a weighting LUT for signal synthesis (Col. 23, lines 48 –

54of Utagawa). Kutner teaches an input digital variable "a". Through this variable the CPU calculates the lookup values for the lookup table memory table (RAM).

As to claim 8, cites the additional limitation "written into the table storage area". Kutner teaches a table storage area (20)(Col. 2, lines 57 – 64).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mitsunaga (US Patent Pub # 20040109068) cites an image processing device.

Sato (US Patent # 6611290) cites an image signal correction device.

Yosida (US Patent # 6803955) cites an imaging device and imaging apparatus.

Takahashi (US Patent # 6181368) cites an electronic endoscope.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Peterson whose telephone number is 571-270-1704. The examiner can normally be reached on Monday - Friday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on 571-272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CKP
10 May 2007

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER